

ABSTRACT OF THE DISCLOSURE

Semiconductor equipment includes a semiconductor substrate with a semiconductor layer embedded therein and a vertical type transistor. The substrate has a principal side, a rear side opposite to the principal side, and a trench disposed in the rear side of the substrate. The vertical type transistor has a first electrode disposed in the principal side of the substrate, a second electrode disposed in the rear side, and a diffusion region disposed in the principal side. The first electrode connects to the diffusion region through an interlayer insulation film. The second electrode is disposed in the trench and connects to the semiconductor layer exposed in the trench. This vertical transistor has a low ON-state resistance.